

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number
WO 2005/084367 A3

(51) International Patent Classification⁷: **C12Q 1/68**,
C07H 19/04, 21/02, 21/04

(21) International Application Number:
PCT/US2005/006960

(22) International Filing Date: 3 March 2005 (03.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/550,007 3 March 2004 (03.03.2004) US

(71) Applicant (for all designated States except US): **THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK** [US/US]; West 116th Street and Broadway, New York, NY 10027 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **JU, Jingyue** [US/US];
267 Marietta Street, Englewood Cliffs, NJ 07632 (US).

(74) Agent: **WHITE, John, P.**; Cooper & Dunham LLP, 1185
Avenue of the Americas, New York, NY 11036 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

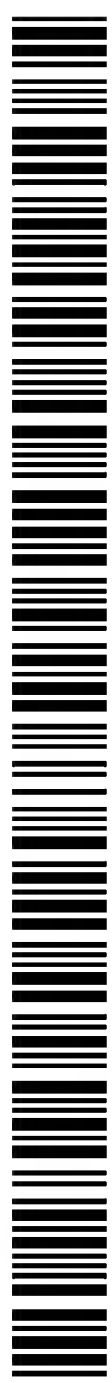
- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
22 December 2005

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: PHOTOCLEAVABLE FLUORESCENT NUCLEOTIDES FOR DNA SEQUENCING ON CHIP CONSTRUCTED BY
SITE-SPECIFIC COUPLING CHEMISTRY

(57) Abstract: This invention provides a method for determining the sequence of a DNA or an RNA, wherein (i) about 1000 or
fewer copies of the DNA or RNA are bound to a solid substrate via 1,3-dipolar azide-alkyne cycloaddition chemistry and (ii) each
copy of the DNA or RNA comprises a self-priming moiety.



WO 2005/084367 A3